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**The Thesis Submitted for The Degree of M .Sc
(In The field of Agricultural Entomology)**

**Fauna of the Mesostigmata mites (Acari)
associated with herbaceous plants in natural
habitats of Sistan**

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Abstract

During the years ۲۰۱۹ - ۲۰۲۰, Fauna of the Mesostigmata mites (Acari) associated with herbaceous plants in natural habitats of Sistan were studied. For this purpose, sampling of various plants, such as straw, salt grass, wild spinach, sagebrush, broom grass, desert ivy, cheese, arch, pecan, turmeric, Abu Jahl watermelon & etc, in natural habitats (rangeland, streams, altitude range, bed Lake, etc.) was carried out in the cities of Sistan region (Zabol, Zahak, Hirmand, Hamoon & Adimi). Branch & leaf samples were collected individually & the soil around the plants up to a radius of one meter and a depth of ۱۰ cm, using oggers & shovels in different seasons. Samples were transferred separately in plastic bags & a label containing information (sampling location, geographical characteristics, type of sample (branch and leaf or soil), type of host & date of collection) was affixed to each bag. The samples were transferred to Berlese funnels separately in the laboratory and exposed to temperature and light for ۲۴ - ۴۸ hours. In the next step, the contents of the bottom containers of Berlese funnels were examined by Stereomicroscope & the mites were isolated from other soil organisms. In order to make the samples suitable for microscopic study, they were first clarified with lactophenol solution & then Specimens were mounted in Hoyer's medium on permanent microscopic slides. Species identification was based on morphological characteristics and using valid identification keys in related books & articles. In this study, a total of ۱۴ species belonging to ۱۰ genera, ۶ families & ۴ superfamilies were collected & identified, the names of which are superfamily & family, respectively, as follows: **Superfamily Eviphidoidea Berlese, ۱۹۱۳: Family Macrochelidae Vitzthum, ۱۹۳۰:** *Macrocheles muscadomesticae* (Scopoli, ۱۷۷۲) & *Macrocheles glaber* (Muller, ۱۸۶۰). **Superfamily Ascoidea Voigts & Oudemans, ۱۹۰۵: Family Ameroseiidae Evans ۱۹۶۱:** *Ameroseius lidiae* (Bregtova, ۱۹۷۷). **Family Melicheridae Hirschmann, ۱۹۶۲:** *Proctolaelaps pygmaeus* (Muller, ۱۸۵۹). **Superfamily Phytoseioidae Berlese, ۱۹۱۶: Family Blattisociidae Garman, ۱۹۴۸:** *Cheiroseius sistaniensis* (Faraji *et al*; ۲۰۰۸) & *Cheiroseius* sp. nov. **Family Phytoseiidae Berlese, ۱۹۱۶:** *Neoseiulus marginalis* (Wainstein, ۱۹۶۱) & *Phytoseius plumifer* (Canestrini & Fanzago, ۱۸۷۶). **Superfamily Dermanyssoidea Kolenati, ۱۸۵۹: Family Laelapidae Berles, ۱۸۹۲:** *Gaeolaelaps aculeifer* (Canestrini ۱۸۸۴); *Haemolaelaps shealsi* (Costa, ۱۹۶۸); *Gaeolaelaps linteyini* (Samsinak, ۱۹۶۴); *Gaeolaelaps joundishapuri* (Nemati & Kavianpour, ۲۰۱۳); *Androlaelaps aegypticus* (Hafez *et al*; ۱۹۸۲) & *Euandrolaelaps karawaiewi* (Berles, ۱۹۰۳).

Key words: Faunistic, Mesostigmata, Predator, Fungivorous, Herbaceous plants, Sistan